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ABSTRACT

A research project combining ethnographic and experimental methods is currently underway to assess whether minority groups use language in ways that put their children at a disadvantage in school. The project, which focuses on social, cognitive, and educational consequences of different patterns of language function and use, has involved collecting samples of the naturally occurring speech of 40 preschool children representing an equal number of black and white, lower and middle class children. The research was guided by questions about whether there are differences in the way black and white speakers structure portions of the lexicon and between vocabulary used in the home and in the school, whether phonology plays a greater role than grammar in producing teacher/student misunderstanding, the extent to which children rely on nonverbal as opposed to verbal cues, the extent to which they are likely to adopt a hypothetical stance toward linguistic information, whether children adjust their speech to reflect the contextual needs of a situation, what children's metabehavioral activities are, whether there are situational differences in adults' language in structured situations, and what the proportion of different uses of questions is across different cultural groups. Analysis of the data might focus on lexical analysis, on analysis of mother/child interaction, or on investigation of constraints on conversation. (GT)

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Technical Report No. 148

CULTURAL AND SITUATIONAL VARIATION IN LANGUAGE FUNCTION AND USE: METHODS AND PROCEDURES FOR RESEARCH

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Abstract

This paper represents a report on work-in-progress. Here we attempt to lay out the issues surrounding our research project and the questions we hope to answer with it. We describe the ways in which our research is developing and the procedures we are following. Although no data is presented, the methods of collection and analysis are discussed in detail. The issue of most concern in our research is whether or not minority groups use language in ways that systematically put their children at a disadvantage at school. We want to see if cultural or social class differences in language use have cognitive, social, and/or educational consequences for children so classified. It is widely believed that these differences do, but, while this is an attractive hypothesis, solid evidence for it is lacking. We argue that an adequate test of this hypothesis must include data on naturally occurring language. To that end, our research combines ethnographic and experimental methods. Audio tapes were made of preschool children representing different combinations of ethnic group and social class membership. Our research focuses on nine specific questions which are presented here along with the approaches we are taking to answer them. In the last section of this paper, we indicate three representative ways in which data analysis might proceed.

Cultural and Situational Variation in Language Function and Use: Methods and Procedures for Research

It is widely believed that there are cultural differences in the functions and uses of language among various ethnic and cultural groups in the U.S.A. (see, e.g., Cazden, John, & Hymes, 1972; Hall & Freedle, 1975; Labov, 1970). In fact, the idea of a mismatch between speakers in language functioning and use is often given as one explanation of the educational difficulties some children have in school (Bernstein, 1964, 1972). Empirical support for this explanation, however, is very thin. An examination of previous research reveals at least three reasons for the lack of evidence: (a) The situations used to evaluate language have been quite restricted; they have concentrated primarily on language used in schools or in strictly experimental situations. (b) There is ambiguity about the terms "function" and "use;" it is not clear whether they should be approached from the perspective of communication and cognition, or from the point of view of social parameters only. (c) The primary emphasis in recent work has been on content (vocabulary) and structure (grammar).

In order to overcome these weaknesses a different approach is required. Specifically, the approach should: (a) combine psycholinguistic and ethnographic methods; (b) emphasize situational variation within as well as across settings; (c) sample from Blacks and Whites, lower and middle class subjects (groups seldom sampled before in a single study); (d) incorporate a sample whose size is large enough to permit supportable

inferences; (e) focus on the combined aspects of structure, content, and function in language; and (f) evaluate change in language use and function in the transition from home to preschool.

This paper will be devoted to a description of a major research project which uses the combination of methods stated above. The paper will also focus on illustrative examples of how data analysis might proceed when such methods are employed.

Statement of Issues

The general hypothesis underlying the work to be discussed is that minority groups and the poor use language in ways that systematically put their children at a disadvantage at school. By sampling children from different cultural and socio-economic groups, the research focuses on the consequences which different patterns of language function and use may have for the child.

The single most important issue in this regard is the consequences of different usage patterns for the speaker, particularly with respect to his or her educational performance. Broadly speaking, these consequences may be social, cognitive, or educational--three areas which are certainly part of any theory of cultural variations in school performance. We will now treat these in turn.

Social. The social consequences of "non-standard" speech for children can affect both teacher-pupil and peer relationships. The consequences of a teacher's attitude toward a given dialect can be profound. For example,

a teacher's attitude can affect his or her initial judgment about the intelligence of a child, how he will fare as a learner, how he is grouped for instruction, and how his contributions in class are treated. This in turn affects the child's attitude about himself as a learner, his willingness to participate, and his expectations about results of his participation.

The consequences of non-standard speech with respect to one's standing with peers may also be profound. It is often suggested that for high status peer and school settings require opposing rules for using or not using language in various ways.

Cognitive. There is a long tradition in the cognitive social sciences linking language and thought. What is not clear is whether different patterns of language socialization in the home have directly discernable cognitive consequences.

We are particularly concerned in the current research with the evaluation of the cognitive consequences of patterns of language usage identified by Bernstein (1964, 1972). In his work, a basic question remains unanswered: Do cultural/class differences in language usage affect people in other-than-social ways (e.g., cognitively)?

Of concern are cognitive consequences which might result from differences in various aspects of language, such as vocabulary. Vocabulary differences clearly reflect differences in public access to one's ideas. They lead to unequal opportunities to talk about a given meaning or aspect of meaning; as a consequence of this each speech community would have different access to its members' and others' ideas. At a deeper

level, different types of speech involve different opportunities to engage in certain basic cognitive processes. For example, the process of modification in the case of adjectives or adverbs, or the process of subordination in the case of conjunctions, could easily be affected by differentially elaborated vocabularies. There is also evidence suggesting that unrecognized differences in vocabulary result in mis-estimates of memory capacity and "general intelligence."

Educational. The possible educational consequences of speaking a non-standard variety of speech can be illustrated for three areas: reading, ability to engage in "instructional dialogue," and the ability to deal with a kind of meta-behavioral information. With reference to reading, a phonological mismatch can affect children's acquisition of phonic skills. Phonological mismatches are likely to lead teachers to misinterpret children's reading of a sentence. (For example, if a child says "John pin" when he sees the phrase John's pen, the teacher could misinterpret this as a mistake instead of a different pronunciation.)

In addition, semantic mismatches may affect children's expectations about the gist of the language that they are reading. Syntactic mismatches may also affect children's expectations about gist (see. e.g., Piestrup, 1973). Moreover, different cultures might promote different levels of metalingusitic awareness, and some cultures might provide more practice than others in those skills which are reasonably isomorphic to the kinds of processes that children have to use in learning to read--for example, counting-out rhymes and jump rope chants which are based on alliterations or rhyming.

Certain patterns of early language socialization perhaps also hamper children's ability to engage in "instructional dialogues" when they enter school, i.e., the kind of communication situation in which a teacher and pupil engage in a question and answer routine, and where the questioner has a specific answer in mind and the answerer's job is to guess what that answer is. The big difference between this type of interaction and the "normal" question and answer exchange is that the correctness of the answer is not necessarily judged on its truth value, but rather on its conformity to a strategy or plan for answering which the teacher has already constructed. The question is, does the communication environment provide an opportunity to engage in interactions which are similar to that of instructional dialogue? Here "similar" is used in the sense that the requirements of a correct answer are based on some ability to intuit the kind of answering strategy that the questioner has in mind, rather than on truth value or some kind of aesthetic organization of the speech act.

Patterns of language socialization that characterize some cultures/classes are often said to interfere with a child's ability to deal with analytical or "meta-behavioral" information, i.e., the ability to analyze and make analytical statements about certain kinds of behavior not always reflected upon in everyday life. These include perceptual awareness (the ability to analyze a perceptual array into a set of geometrical or mathematical relationships) and behavior awareness (the ability to analyze the

emotions of a person or those of a fictional character). To understand how being a member of a given speech community might affect the ability to make this type of analysis, it is necessary to consider whether or not different cultures provide differential opportunities to engage in the kind of meta-behavioral analysis mentioned above. Since this kind of analysis is a hallmark of schooling, it is a prime area for studying home/school mismatches (see, e.g., Scribner & Cole, 1973).

To see how these and other issues are dealt with in our research project, we now turn to a more detailed description of that work.

The Research

As a preliminary to the research, an exhaustive review of the literature in relevant areas was undertaken, revealing several substantive limitations. As mentioned above, earlier studies suffer from (a) the use of limited situations, (b) the ambiguity of the meaning of the terms "function" and "use" in language, and (c) an emphasis on content and structure. In addition, it was found that (d) the nature of the analysis used (e.g., correlational, experimental, survey) obscured pertinent information (cf. Mehan, 1978, 1979); (e) sample size was usually too small to justify inferences; (f) the failure to study middle class as well as lower class subjects from all groups being compared restricted conclusions; and (g) the important transition from pre-school to the first grade was neglected.

Given the present state of knowledge, a number of pressing questions about the educational performance of the urban poor still remain unanswered.

Certainly, the relation of language usage and school performance among different ethnic and SES-defined groups is one of them. We believe that the research program described here, and other studies like it, will ultimately discover the path leading to a solution of these problems. As a first step in that direction, the research is aimed at three general questions about young children and the significant adults in their lives:

1. What are the important dimensions of language differences among cultural groups in the U.S.A. as defined by SES and ethnic group identify? Specifically, these differences should lie in language structure and content, i.e., vocabulary, grammar, and phonology.

2. Do patterns of language usage distribute across social setting and speech situations in the same way for different cultural groups?

3. What are the cognitive consequences of variations in language function, especially the functions into which young children are socialized?

In conceptualizing the research, we reasoned that a naturalistic study of language as used by young children (age 4½-5 years) would be required. Prior to our research, naturalistic studies of language usage of parents and young children have been rare (cf. Horner & Gussow, 1972; Ward, 1971). Existing studies have employed primarily interview-based and school-based data. Without the evidence provided by more naturalistic language, the questions raised in this paper cannot be answered adequately.

To do a naturalistic study of language, an ethnographic method is the most useful. This method involves fairly accurate descriptions of

behavior as it emerges in context; thus both the talk itself and the context in which it occurs are described. The behavior we wish to study has little descriptive value without the careful charting of its antecedents and consequences in context. This careful charting is what we mean by ethnographic method. For this research, then, extensive samples of language usage in natural contexts were obtained. These consisted of recordings of conversations between target children and their parents, siblings, teachers, and peers, representing a variety of physical and temporal contexts.

Further, it was decided that the focus should be on the intellectual consequences of differences in language structure, content, and function as these interact with social class, ethnic group membership, and setting. In this regard, the work draws upon and extends two disciplines in the behavioral sciences: sociolinguistics and developmental psychology. With respect to sociolinguistics, it builds upon and extends the work of Labov (1970) on the elaborations of structure; of Houston (1969) on specific registers and shifts in these registers; of Ward (1971), Horner (1968), and Hall, Cole, Reder, and Dowley (1977) on the communication network as portrayed in the home and immediate surrounds. Regarding developmental psychology, it builds upon and extends the work of Hess (1969) on cognitive environments, and White and Watts (1973) on the environment of the child in general.

Methods

The methodology employed here is what Hymes calls the ethnography of communication (Hymes, 1974). In a general ethnography, the goal of the ethnographer is a verbal re-creation of the world of the target culture. It should be a descriptive account which members of the target culture recognize as their own experience of reality. In contrast, the ethnographic component of the research described here is more focused in that it concentrated on naturally occurring speech. By recording language in the everyday lives of the target children, actual language experiences of subjects were sampled. Data on other aspects of the subjects' lives were included only as they related to the functions and uses of language.

Language samples were collected through the use of audio tapes. There were several reasons for this. First, the complexities of language are too great to be captured by a participant observer's field notes. An observer's notes could not adequately record, for example, the multiple functions of language in context. For the same reasons, checklist data would be inadequate. The limited perspective of checklists would also require that a more sophisticated data collection method be employed. Audio tapes satisfy this requirement.

Second, the audio tape equipment (portable tape recorders with wireless microphones) was manageable enough to permit data collection in a number of different settings. Data were collected, for example, in homes, shops, moving cars, and on sidewalks. The mobility achieved in this way

would not have been possible with, say, video tape machines. Even though video-tape provides more complete data, in a study such as this its use is impracticable.

Finally, the tape equipment did not seem to cause any significant disruption in the normal behavior of the target children. The wireless microphones were, for example, sewn into colorful vests which target children wore without protest; in fact, they seemed to quickly forget about having them on.

Subjects

Subjects were 40 preschool age children (4.5-5.0 years) divided equally according to race and socio-economic status (SES) as follows: lower class Black (10), lower class White (10), middle class Black (10), middle class White (10). SES was determined through the use of income and education indices from the scale developed by Warner, Meeker, and Ells (1949).

Procedures

Language samples were collected over two consecutive days. Taping was done through the use of stereo tape recorders and wireless microphones worn by both the target children and the field worker. Target children wore vests with microphones sewn in; field workers clipped microphones to their ties. Although adults and non-target children in the study did not wear microphones, the two mikes used were, in general, sensitive enough to pick up all significant verbal interaction with the children in the study.

In order to sample situational variations in language, each child was recorded in a series of ten temporal situations: (a) prior to school in the morning; (b) on the way to school; (c) during the transition to the classroom; (d) during free play; (e) during teacher-directed activity; (g) during snacks and toileting; (h) on the way home from school; (i) prior to dinner; (j) during dinner; and (k) prior to bed. The setting for these temporal situations consisted of not just home and classroom, but playground and community as well. Additional recording was done of parents in a formal interview situation (see Appendix) which investigated questions relating to the child and his home and school environments.

In the collection of data, the field worker tried to be as unobtrusive as possible. He rarely initiated conversations, but, if spoken to, attempted to respond naturally. One of the field worker's responsibilities was to provide a verbal description of the context. For the purposes of this research, the context included where the recording took place, where the subject was, who the interactants were, and what they were doing--both their verbal and non-verbal behavior. Furthermore, the descriptions of context often included what happened prior to and subsequent to, as well as simultaneous with, verbal interaction.

The length of the recordings in each of the temporal situations varied from 15 to 60 minutes. When summed, this amounts to a total of 420-500 minutes of talk for each child and about 300 hours overall. Hand-written transcripts were made of the recordings and coded onto computer

punch cards and then computer tape. Each turn of talk was transcribed on a separate punch card (or two cards if necessary because of turn length), producing a total of 10,000 cards per child or 400,000 overall. On each punch card, in addition to the transcription of a turn, the following information was coded: subject number, SES, race, speaker, and situation.

Research Questions

In assembling the corpus, nine questions were formulated. In each, the interest was in group differences as they are related to particular contexts and to the social, cognitive, and educational consequences for the child. The questions focus on three aspects of language: (a) differences in language structure and content; (b) patterns of language usage across groups; and (c) differences in language usage across natural and formal settings. In the pages that follow we will present the questions, grouped according to the aspect of language upon which they focus.

Structure and Content

Question #1: Are there differences in the way Black and White speakers structure portions of the lexicon? There might be certain differences in the way in which speakers of Black dialect and Standard English structure prepositions. For example, Black Harlem adults have been observed to say the following to children: "John, sit to the table." In this instance, a Standard Engish speaker would probably say: "John, sit at the table." The question is whether or not the rendering, "sit to the table" does not suggest to the child a different relationship between himself and the object table than that interpretable from "John, sit at the table." Essentially,

the first instance is more factive than locative. Such potential differences in structuring the lexicon are of special interest because of their implications for cognitive functioning as it is exemplified in standardized test performance.

On a broader scale, the reasons for asking about lexical structuring have to do with the centrality of this structuring in human experience. Space and time, both of which can be readily revealed through prepositions, are basic coordinates of experience. Since only one object can be in a given place at a given time, spatial locatives provide an indispensable device for identifying referents. Hand me the spoon on the table identifies the spoon that the speaker is referring to. The place adverbial, on the table, indicates a search field, and the head noun, spoon, provides the target description. As Miller and Johnson-Laird (1976) indicate, how a search is to be executed depends on the particular preposition relating the target to the landmark: on, in, at, by, under, etc. How children learn to delimit the search field and the cultural variations in this procedure are of extreme interest.

Brown (1973) has observed that in and on are among the first words children learn to use. This suggests that understanding the relation of a target to a search field comes early in the life of the child, as does the child's understanding of the topology of spatial relations in general. According to Brown, these understandings seem to grow naturally out of the child's mastery of sensorimotor coordinations in space and time.

Question #2: Are there differences between vocabulary used in the home and that used in the school situation? Answers to this question might be found first in raw counts and frequencies of lexical items. In addition, little is known about social class differences in the way in which certain parts of the lexicon are structured. Miller and Johnson-Laird (1976) have provided a theory on the way in which spatial relationships and verbs of motion might be structured, but no empirical evidence is available.

In the research program we are discussing, evidence bearing on the question of home/school differences is being sought in two ways: (a) A search is being conducted of the naturally occurring data with respect to lexicon. An alphabetical list of all words in the corpus is being produced and coded for subject, speaker, and situation. Alphabetical lists for each subject are already available. In addition, Hall and Tirre (1979) searched the corpus for the use of words from four standardized intelligence tests: The Stanford-Binet, WISC-R, WPPSI, and Peabody. They found that, overall, speakers produced more of the target words at home than at school, and that middle class children produced more of the words at home than did lower class children. No overall differences were found for race or social class. (b) A series of assessment interviews (Appendix) adopted from previous work are being conducted with the children and their parents. These interviews are designed to assess the degree to which children's actual comprehension of certain terms incorporates the "rules" or relationships

hypothesized in Miller's theory of lexical structure. The concern is with both raw counts and frequencies and the different contexts that any given vocabulary item enters in the communication network, on the assumption that frequency and variability of context are both important for completely developed word meaning.

Question #3: Admitting that phonology and grammar are equally important determinants of dialect assessment, does phonology play a greater role in producing misunderstanding between teacher and student? This question can be seen to relate directly to the role of dialect in learning to read. Simons (1973), for example, has noted that one major behavioral consequences of the differences between the Black Dialect and Standard English phonological systems for reading acquisition is that certain written words are pronounced differently by Black Dialect speakers than by Standard English speakers. The results of these differences are words that have a pronounciation unique to Black Dialect, e.g., nest--"ness," rest--"ress," hand--"han." Moreover, there are words whose Black Dialect pronunciation results in a different word, e.g., test--"Tess," mend--"men," walked--"walk," cold--"coal," find--"fine," etc. The latter pronunciations result in an extra set of homophones for Black Dialect speakers. These differences in pronunciation could interfere with the Black Dialect speaker's acquisition of word recognition skills.

Question 1-3 provide a view of vocabulary differences for children at different age levels, as well as for adults (e.g., mothers and teachers). The role of lexicon vis-a-vis basic readers, code-switching by context, and the role of parent-child interaction in vocabulary is being investigated,

as is the relative importance of grammar and phonology in teacher-pupil misunderstanding. Further, a central issue in "bidialectalism," namely, whether grammar and phonology vary within settings as well as across settings, can be addressed through collecting data on these questions.

Patterns of Usage

Question #4: To what extent do children rely on non-verbal as opposed to verbal cues in obtaining information from the environment and communicating information about the environment to others? This question is being asked for the target child in each of the settings where sampling of language was done. In the more structured of the situations, the work on referential communication guided the data collection (e.g., Glucksberg, Krauss, & Higgins, 1975). Among the questions being asked are: (a) How does the target child acquire information from others (adults, older children, peers, etc.); and (b) How does his information acquisition differ, and/or how is it similar to that in the naturally occurring events of his everyday life?

Question #5: To what extent are children likely or able to adopt a hypothetical stance toward linguistic information? Verbs and conjunctions are important pieces of data needed to answer this question. The use of verbs, for example, is important to analyze because they are essential for ascertaining meaning in sentences. Verbs are necessary for prediction in English, and prediction makes sentences something more than a string of word associations. The verbs of particular interest to us are those of

motion (e.g., move, come, go, walk, jump, run, reach, arrive), primarily because they can be studied with young children. These verbs can occur in relatively simple sentences, they have a fairly obvious perceptual basis for reference, they combine spatial and temporal aspects, and the children use them frequently. A detailed analysis of verbs of motion has been represented by Miller and Johnson-Laird (1976). Suffice it to say that the motion verbs--come and go, bring and take--occur frequently in child language although they involve some rather complicated relations of the direction of motion to the region of the speaker and his addressee. An analysis of these verbs has been done for adult speech by Fillmore (Note 1). The data can be searched for spontaneous occurrences of these verbs to see if they are ever misapplied or confused. The question is: Does the young child who uses motion verbs really understand them?

It has been noted by Miller and Johnson-Laird (1976) that analysis of verbs like jump, for example, into their semantic components leads to several possibilities. The paraphrase, she jumped the fence, would translate into something like "She did something with her legs that caused her to begin traveling over the fence," which includes such semantic components as motion, path, action, causation, etc. If young children use such verbs correctly, they probably do so on the basis of representations other than those revealed by semantic analysis. That this is probably the case has been suggested by Nelson (1973) in her hypothesis that concepts develop from intra-referent variations, not from inter-referent variations. The semantic analysis

represents a summary of differences between related words, whereas children may develop a concept of jumping without considering differences between jumping, launching, throwing, bouncing, and other related concepts. The verbs of motion provide productive materials with which to test these notions.

Question #6: Do children adjust their speech to reflect the contextual needs of a situation? For example, do children adjust their speech to accommodate to the needs of others? Evidence from referential communication literature indicates that they do, at least in experimental situations (Shatz & Gelman, 1973; Asher, 1978). Much less is known, however, about children's use of speech in natural settings or the effect of situational variables. The study by Hall, Cole, Reder, and Dowley (1977) is notable in that it does measure the effects of situation on children's speech.

In this study, the speech of lower class Black preschool children was studied in two situations, the classroom and a supermarket. The results showed that in the less formal supermarket situation children were both more verbal and more spontaneous, thus indicating that situational constraints do have an effect on children's speech. Exactly what these constraints are and the way in which they operate on children's speech remain to be studied, however.

One approach with the present corpus might be to search for instances when subjects communicated information. These could then be coded for situation, listener, etc., and measured for accuracy or completeness.

Question #7: Concerning the meta-behavioral activities of the children: (a) Are they able to describe their own behavior and inner states? (b) What is the nature of the lexicon that children have developed to describe their own behavior and inner states? and (c) What kind of meta-linguistic awareness have children developed?

Following a set of procedures developed by Gearhart and Hall (1979), and Hall and Nagy (1979), the corpus might be examined for evidence concerning the use of internal state words (e.g., know, sight, hopeful). Consideration would be given to, for example: (a) the percentage of internal state words used by different speakers in different contexts, (b) the semantic or pragmatic use of the words, and (c) the relation of particular lexical items to mental activities. The hypothesis here is that the use of internal state words can facilitate the acquisition of metacognitive processes and help the child to become an active seeker, interpreter, and user of knowledge.

Investigations which follow from Questions 4-7 will, when finished, provide a check on the validity and situational variability in language patterns formulated by Bernstein (1972) as elaborated and restricted, as well as on Horner's analysis of simple vs. elaborate tacts in interpersonal communication. The structured setting data will be compared with that from the unstructured setting as a means of disentangling dominant modes of speaking from possible ones. Perhaps most importantly, answers to questions 4-7 will provide some much-needed data on the implications of language socialization modes for cognitive skills, a point on which there is much controversy.

Comparison Across Settings

Question #8: Are there situational differences in the use of language among adults in "structured" situations? An example of a structured situation which might be useful here would be the interview, both individual and group. Here we would predict that both middle and lower class adults will produce more language, and a more complex language, in group than in individual interviews, and that the difference in language between the two situations will be greater for the lower than for the middle class. The subject of such interviews could be video taped situations like child-parent interactions or child-teacher interactions. These interactions should be open-ended; the following are examples: (a) the child breaks (or is about to break something); (b) the child hurts someone (or is about to hurt someone, e.g., a younger sibling); (c) the child asks for help with a task in a situation where the mother appears to have just finished a burdensome chore; (d) the child asks for help with a task in a situation where the mother appears to be very busy; (e) the child does something inappropriate at a family-style social gathering (e.g., a Sunday dinner); (f) the child does something inappropriate during an interaction with a strange member of the establishment (e.g., while the mother talks to a shopkeeper or to a doctor or nurse at a clinic or to a secretary or other office worker at school); and (g) the child indicates an ability to do something independently in a home setting. The teacher-child interactions could be investigated along similar lines.

Question #9: What is the proportion of different uses of questions across different cultural groups? Efficient accumulation of information is critical to school performance, and questions are cues to provide information and elicit information--seeking behavior in the child. Moreover, they are a verbal means by which a child seeks information. The data on questions in adult-child and child-child interaction in natural settings is lacking; it is believed that the corpus will provide this data.

Analysis of the Data

Having amassed a tremendous amount of data from largely naturalistic sources, the problem becomes one of analysis. Obviously, any analysis should be planned in terms of some set of problems. In our case, we have articulated problems regarding the functional use of language in terms of a series of questions. All of these questions cannot be approached at once; some discussion must be undertaken about how to proceed. For example, if one wishes to focus on lexical analysis, he could proceed in the following way:

The first part of such an analysis could focus on the individual lexical item, i.e., vocabulary. Vocabulary variations might be looked at in a variety of ways, all of which could be treated against a grid formed by the combinations of four basic population groups (Black/White by middle-class/lower class). This analysis should also include situational variation (e.g., home vs. school, dinnertime vs. bedtime, lessons vs. free play, etc.). A simple word count would uncover, among other things,

if there is a reason to tailor initial reading vocabularies to special groups. Another aspect of this analysis involves matching the obtained vocabulary with vocabularies used in psychological tests, e.g., the Stanford-Binet; the WISC, etc. (Hall & Tirre, 1979). These two analyses are essentially frequency distributions. They are fairly easy to do, given the state of the data, and should yield two products: a "dictionary" of spoken words and a report detailing the relationship between obtained and expected vocabularies.

A third line of lexical analysis might involve searching the obtained vocabularies for lexical domains that are of special theoretical interest because they relate directly to established theories of cultural differences in language usage (e.g., function words, verbs, prepositions, etc.).

Another analysis of the data might focus on mother-child interaction. This analysis might focus on the question of whether the mother's language in a formal, "school-like" situation constitutes a context for the child's performance. Specifically, what might be looked at is how the mothers talk to their children to ensure a high level of performance on "school-like" tasks. The context here is taken as being constituted by what people are doing and where and when they are doing it (Erickson & Schultz, 1977). People in interaction become environments for each other's behavior (McDermott, Note 2).

A third approach to analysis might concern investigation of constraints on conversation. When participating in conversations, children must

continuously produce language which achieves communicative goals and is appropriate to the communicative situation at each point in the conversation. Thus, children are constrained both by the "local" circumstances of the conversation and by the need to achieve the personal goal which they bring to the conversation and which explains their decision to participate. Children are thus constrained from the "bottom-up" by the grammatical form, illocutionary functions, and content of utterances which occur in the conversation; and from the "top-down" by their own communicative goals. The analysis of talk in conversations must centrally involve the analysis of how children produce language which satisfies different kinds of constraints and of how they use their cognitive, linguistic, social, and cultural resources in producing appropriate talk. The goal of this analysis would be to understand the constraints on children's decisions in speaking and the manner in which they use the resources at their disposal.

If some turn made by a speaker is labeled i, and the turn that immediately follows it $i + 1$, then what is of interest is the unit consisting of the pair i, $i + 1$. How does i constrain $i + 1$ and how do children use the resources available to them in producing an appropriate response? These questions constitute the basic level of analysis. Other levels might consider, for example, how $i + 1$ relates to turns prior to i and $i + 1$. In this way, the manner in which higher level discourse units in a conversation provide a link to the child's developing ability to produce and understand coherent discourse could also be considered.

The ability to produce and understand coherent discourse is one of the major accomplishments and requirements in becoming "schooled" in our culture. It is probable that cultural differences in the functions and uses of language will be apparent in the structure of conversations, and that it is because of them that an educational mismatch is effected, rendering some children at a disadvantage in acquiring the ability to produce and comprehend coherent discourse. Given the current state of knowledge, it is possible to list some classes of constraints and resources which operate in conversations: (a) illocutionary, i.e., the intentions motivating utterance type, such as questions, statements, etc.; (b) inferential content, i.e., relations in and among and beyond the propositions to be interpreted; (c) grammatical form; (d) social relationships among speakers, both the status they bring to the interaction and the role they create; (e) shared meanings and prior knowledge; (f) settings; (g) the task in which one is engaged and one's conception of it; (h) the prior discourse in the same setting; and (i) cognitive demands of the task.

Summary

This paper has described one attempt at a solution to a difficult educational problem--the failure of minority children to succeed in school. While it is certainly not the only cause, we have suggested that a mismatch between the functions and uses of language at home and at school might have an important influence on the academic success of such children. It is believed that ethnic minority groups use language in ways that systematically put their children at a disadvantage in school. Language differences

can have tragic consequences for children as they move from the home community into the middle class world of the school. Socially, the child may experience both teacher and peer prejudice because of the dialect he speaks. The child may find his speech patterns limit him cognitively, as well. In addition, language differences may place academic success out of reach.

We have described a research program designed to investigate these possible consequences in minority children. For this research, language samples were collected from an equal number of Black and White, lower and middle SES children. The children were recorded in a variety of physical and temporal situations and in interaction with parents, siblings, teachers, other adults, and peers. After a massive data-collection effort, a corpus of more than 300 hours of natural language had been obtained.

A series of nine questions guided the research; these question focused on three aspects of language; (a) differences in language structure and content; (b) patterns of language usage; and (c) differences in language usage across groups. Finally, in this paper, three examples of possible approaches to data analysis which relate to these questions were presented.

The plight of ethnic minorities in the American educational system should be the subject of a concerted research effort. However, before any further steps are taken one caveat must be made emphatically clear: answers will not lie in experimental, survey, or interview data alone. Attention must be given to the reality which minority children experience,

and this can only be achieved through the inclusion of ethnographic methods in research methodologies. The research design reported on here is only one form that such studies might take, but all will at least have an ethnographic component in common.

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Appendix

Interview Schedule

Statement of Purpose: Today's interview is a second part of the language study that we are doing at _____ in conjunction with _____. You will recall that we recorded _____'s talk last school year. We have transcribed about 60% of this sample of talk. To make any interpretation of this talk meaningful, we need to get an estimate of the variety of home situations represented by the children in our sample. Of course, your responses will remain anonymous.

1. How many children do you have? What are their ages? Sexes? In what grades are they? In what schools? (Note: If not in school, determine whether employed and/or separated from the family.) Is any child in your family adopted?

2. What is your morning routine for getting the family out of the house?

3. What age children are most interesting? Why are the Xs more interesting? What does your husband think and why?

4. Let us return to _____ and school.

   a. How does he generally do in school?
   b. In what area has he improved in the past year? The least?
   c. How do you feel about his school progress? What do you expect him to achieve? What would satisfy you?

5. How do your other children generally do in school?

6. What organizations or clubs, if any, do you belong to (PTA, Church, Political, etc.)? Does your child know what you do in these organizations? _____yes _____no How?

7. What are your favorite recreation pastimes? Your husband's? What recreational activities do you and your family engage in on weekends together? What places have you visited on weekends during the past six months? Why?

8. Do you usually plan your weekends and vacations ahead of time? How often? Who makes the plans?

9. Where have you, as a family, traveled during the past two years? Why were these places chosen? What specific activities take up most of your time at these places?

10. What newspapers and/or magazines do you subscribe to? Do you encourage your child to read them? If so, how? Do you discuss the article or stories in them in his presence? (Give examples) Does your child ever participate in these discussions - vs. listening?

11. Does your child take any lessons - musical, dance, academic subject? If so, what? How long has he taken these? How did he get started in this area?

12. What hobbies, if any, does your child have? How long has he been interested in this? What seemed to get him started in this area? (Note parent initiation)

13. What kinds of toys, games, books, pamphlets, etc. have you bought for your child in the past two years? (Include birthdays and holidays) Give example. Preschool period? - List.

14. Does your child have a library card? If so, how long has he had it? How did he come to get this card? (Note parent initiation) Do you remember the first few times he went to the library? Did anyone accompany him? Who? What kind of books have you encouraged him to read? Where else does he obtain reading material? Do you still read to him? Does he read to you? How often?

15. What appliances do you permit him to operate? How long have you allowed this?

16. Do you ask your child problems related to school activities that he is required to answer or solve on his own? Give examples.

17. Does your child have a desk of his own? If not, where does he work? What kinds of supplies are available for him to work with? (Observe)
_____paste _____ruler _____paper _____crayons _____paints
_____others (specify)

18. Do you have a dictionary in your home? If so, what kind? Does your child have a dictionary of his own? If so, what kind? Where are they kept? How often does your child use the dictionary? How often do you? When the child uses the dictionary, at whose initiation - his or yours? What other ways does your child have of learning new words? School, relatives, etc. Home dictionary: __yes __no Child's Dictionary: __yes __no

19. Do you have an encyclopedia in your home? __yes __no If so, when did you get it? Why? Do you buy yearbooks to accompany the encyclopedia? Where is it usually kept? How often do you use it? How often does your child use it?

20. Do you have an almanac or fact book? __yes __no If so, when was it purchased? Who uses it? When? What other sources of reading materials does your child have available to locate answers to his questions - library, friends, etc.?

21. Do you have any workbooks or other kinds of learning materials which you use to help your child in his learning? What other steps, if any, do you take to insure that your child's learning environment is what you want it to be?

22. Does your child receive homework? Do you help him with these assignments? How much time do you find to work with him on these assignments per week? How much time do you and your husband spend providing direct help to your child in his school learning on weekdays? On weekends? (Also ask for Preschool and Primary grades)

23. How often do you and your husband discuss your child's progress in school? What generally results from such discussions?

24. Have you had any experience in teaching? What? Your husband?

25. When does your child usually eat dinner on weekdays? Who eats with him? Who does most of the talking at the dinner table? About what?

26. At what other times are you together as a family on weekdays? What are some of the things you do together at these times?

27. What are some of the activities your husband engages in with the child on weekdays? On weekends?

28. Are there any adults outside of you and your husband that your child is particularly friendly with? If so, what does he seem to like about them? What do you see as this person's special qualities? How often does your child see them? What does he do when he's with them?

29. Did any other adults live with you when your child was first born? If so, who? (not name) How long did they live with you? What was the age of the child when they left? (Note: If the child was close to them, ask the following questions) How much schooling did they have? How would you rate their use of language?

30. Did you have a job outside the home when your child was younger? If so, who took care of the child?

31. Did you read books to him when he was younger? If so, when did you start? When did you stop? How <u>regularly</u> did you read to him?

32. About how many hours a week does he usually watch TV? What are his favorite programs? Do you approve of them? If not, what do you do about them?

33. What are your favorite TV programs? Did you recommend that your child watch any particular programs in the past week? If so, which ones? Did you discuss any programs with him after watching them?

34. How would you describe your child's language usage? Do you help him to increase his vocabulary? If so, how? How have you helped him to acquire appropriate use of words and sentences? Are you still helping him in these respects? If so, how?

35. How much would you estimate you correct him in his speech? (example use of "ain't") How particular are you about your child's speech? Are there particular speech habits of his that you are working on to improve? Give examples, if so. Earlier?

36. Are there any languages other than English spoken in the house? If so, which ones? Who speaks them? Does the child also speak this language?

37. How much schooling do you wish your child to receive?

38. How much schooling do you expect your child to receive?

39. What is the minimum level of education that you think your child must receive?

40. Do you have any ideas about the kind of work you would like to see your child do when he grows up? Do you have any ideas about the kind of work you would not like your child to do?

41. How does your husband feel about the kind of work he's doing? Is this the kind of work he always wanted to do?

42. How do you feel, in general, about the accomplishments of your family? How far have you been able to accomplish the aspirations or plans with which both of you started your family life?

43. How important has education been in achieving these goals? How much importance is education going to have in the life of your child? Would his future status be radically affected if he does not attain the level of education you wish him to attain?

44. What is the education level of some of your close friends and relatives?

45. Do any of their children go to college or have they? Does this include all of the children? Are there any who did not complete high school?

45a. Have you met with your child's present teacher? What is her(his) name? If so, when? Why? Does the teacher usually initiate parent-teacher conferences? If you ask for a meeting, for what purpose? What other ways, if any, are you in contact with the school? Do you like X's teacher? What makes you like her? Dislike her?

46. Do you know your child's best friends in the neighborhood and school? Do you approve of them? How would you rate these children in their studies? Do you help your child in choosing his friends? If so, how?

47. Do you read biographies of great people to X? If so, whose? Which ones have you read in the past two months? If so, whose?

48. Did you hug, kiss, or speak approvingly to your child in the past few days? If so, for what reasons?

49. What are some of the activities and accomplishments of your child that you praise and approve of? How do you do this? What things do you find you have to scold him for?

50. Have you thought about what kind of high school program you want your child to enroll in? If so, which one? Why?

51. How often does the school give out student reports? Who usually signs it? Do both parents see it? In what ways do you use the report?

52. Do you discuss his school progress with him? What particular things do you discuss with him?

53. Do you have college plans for him? If so, what have you done to financially prepare for this? In what other ways, if any, do you prepare him for the attainment of educational goals? (e.g., acquaint him with colleges, telling him about what people learn in college, etc.)

54. About how often do you ask your child how well he is doing in school? What particular things do you ask him?

55. Do you know what materials he uses in different areas covered in school? Do you know at the beginning of the school year what things he will be studying during the year in each subject? If so, how do you find this out? (Note: get specific topics, not subjects, e.g., reading)

56. How much time do you think a child X's age should devote to school type work?

57. Does he help you in the routine housework? If so, what responsibilities does he have? How quickly does he carry them out?

58. Is the housework distributed among the members of the family? If so, who did the planning for such assignments? How regularly are these assignments followed? What factors, if any, come in the way of carrying out such plans?

59. How would you rate your child's habit of completing his work on time, not leaving a problem undone, correcting his mistakes, etc? How did he acquire these habits?

60. Do you ever have to change your own plans for the sake of your child's school work? If so, what kinds of plans have you had to change?

61. Have you had to sacrifice any of your major needs or desires such as buying a new car, giving up a job, etc. for the present and/or future education of your child? If so, what did you give up? What were the immediate consequences?

62. Are you taking any courses or involved in a hobby? If so, what? How did you get involved in this? How are you doing it - formally or informally? Did you study any subjects or have a hobby during the past two year? If so, what?

63. When guests come to visit do you like X to hang around or go play?

64. Do you take X out with you when you run errands?

Turning to the final few questions, let me ask you about the neighborhood and the apartment in which you are living.

65. How is this as a neighborhood for children?

66. Where else have you lived? How did you choose it (them)?

67. How did you like it? Could you describe the layout of that apartment?

68. How long have you lived here?

69. How did you choose it?

70. Could you describe how this apartment is laid out?

(Note: after entire interview, ask: could you draw me those apartments?)

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